

Plantae Chinenses Forrestianae.

Plants discovered and collected by George Forrest during his first exploration of Yunnan and Eastern Tibet in the years 1904, 1905, and 1906.

Description of New Species of *Geranium*.

BY

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Geranium kariense, R. Knuth. Sp. nov. in Geraniaceae in
Engl. Pflanzenreich iv, 129 (1912), p. 577.

Caulis 30–50 cm. altus, suberectus vel erectus, demum glaber vel superne pilis recurvatis sparsim obsitus, angulosus, supra basin pseudo-dichotome ramosus. Folia inferiora longe petiolata; petioli graciles, non raro tortuosi, 1–1½ mm. crassi, pilis retro-adpressis praecipue laminam versus densius obsiti; folia superiora brevissime petiolata, sed non sessilia; lamina supra sparsim adpresso pilosa, subtus ad venas tantum pilis setosiusculis adpressis obsita, usque 10 cm. lata et 6–7 cm. longa (a basi ad apicem), ambitu 5-angulata, usque ad $\frac{2}{3}$ palmato-5-partita, lobis e basi integra cuneata elongato-rhomboideis, apice satis longe producto acutis vel acuminatis, marginibus anterioribus grosse dentato-incisis vel incisis, laciniiis et acinulis oblongis acutis et minutissime mucronulatis. Stipulae membranaceae, fuscae, \pm lanceolatae, \pm acuminatae, acutae vel acutissimae, integrae, mediae usque 10 mm. longae et 4 mm. latae. Inflorescentia corymbosa; folia floralia saepe ad unum lobum grosse incisum reducta, brevissime petiolata. Pedunculi bini, 2-flori, quam folium 1½–3-plo longiores, usque 6 cm. longi, indumento satis brevi \pm retro-adpresso eglanduloso obsiti. Bracteae subulatae vel capillares, basi vix latiores, 5–6 mm. longae. Pedicelli demum divaricati vel recurvati, calyce 1½–2½-plo longiores, pilis albidis setosiusculis retro-adpressis eglandulosis dense obsiti, 1–2 cm. longi. Sepala glabra, ad nervos (3) sparsissime pilis sursum directis adpresso ornata, ovata vel lanceolato-ovata, margine anguste membranacea, demum apicem versus acuminata,

[Notes, R.B.G., Edin., No. XXXVI, March 1913.]

mucronata mucrone 1-2 mm. longo, cum mucrone 8-10 mm. longa. Petala fusco-purpurea, calycem superantia, sub anthesi perfecte recurvata, ± late obovata, integra, basi longe patule albo-villosa; circ. 10 mm. longa. Filamenta glabra vel ad basin sparsim ciliata, calyce longiora; antherae oblongae, atro-purpurea. Pistillum glabrum vel sparsissime barbatum. Fructus immaturus 28 mm. longus; valvulae pubescentes; rostrum sparsim puberulum, supra medium filiforme.

"Flowers magenta. Moist pine woods, western slope of Kari pass, Mekong-Yangtze divide. Elevation 11,000-13,000 ft. Yunnan. September 1904." G. Forrest. No. 97.

Geranium Forrestii, R. Knuth. Sp. nov. in Geraniaceae in Engl. Pflanzenreich iv, 129 (1912), p. 578.

Rhizoma lignosum, perpendiculare, versus collum 8-10 mm. crassum. Caulis 20-45 cm. altus, suberectus vel erectus, demum glaberrimus vel superne sparsim pilosus, juvenilis non raro retro-setoso-pubescent, angulosus, superne (2-15 cm. supra basin) pseudo-dichotome ramosus, inferne simplex. Folia inferiora satis longe petiolata; petioli usque 10 cm. longi, satis graciles, vix 2 mm. crassi, pilis recurvatis vel retrorsis praecipue laminam versus puberuli; folia superiora brevissime petiolata, summa sessilia; lamina supra glabra vel sparsim hyaline pilosa, subtus praecipue ad nervos pilis setosis hirsuta, usque 7 cm. lata, 4½ cm. longa (a basi ad apicem), ambitu reniformi-rotundata, usque ad ¼ palmato-5(-7)-partita, lobis e basi integra cuneata rhomboideis, apice producto acutis vel fere acuminatis, incisis, laciniis et lacinulis oblongis acutis. Stipulae firmae, fuscae, deltoideo-lanceolatae, acutae vel acutissimae, integrae, inferiores usque 2 cm. longae, basi 4-5 mm. latae. Inflorescentia racemoso-corymbosa; folia floralia lobis multo angustioribus dentatis instructa, sessilia. Pedunculi, saepe trini, 2-3-flori, folio 2-3-plo longiores, usque 6 cm. longi, indumento patulo albo eglanduloso ± divaricatulo obsiti. Bractae subulatae vel capillares, basi vix latiores, 5-6 mm. longae. Pedicelli demum divaricati vel recurvati, calyce 1-2-plo longiores, indumento satis brevi patulo-retrorso setoso dense obtecti, 1-2 cm. longi. Sepala pilis sursum adpressis vix dense subsericea, ovato-lanceolata, trinervata, margine vix membranacea, apicem versus acuminata, mucronata mucrone 1½ mm. longo, cum mucrone 8-9 mm. longa. Petala atro-purpurea, calycem superantia, sub anthesi perfecte patula, obovata, integra, basi longe patule albo-villosa, circ. 9 mm. longa. Filamenta infra medium margine sparsim ciliata; antherae lineari-oblongae nigricantes. Pistillum sericeum. Fructus matus (?) 3 cm. longus; valvulae pubescentes; rostrum puberulum, superne filiforme (per partem quartam superiorem).

"Plant of 1-2 ft. Flowers deep rose-purple. Shady openings in pine forests on the eastern flank of the Tali Range. Lat. 25° 40' N. Alt. 9000-10,000 ft. August 1906. W. Yunnan." G. Forrest. No. 4282.

Nota.—*G. Forrestii* et *G. kariense* a ceteris speciebus sectionis *Reflexa* earundem regionum, *G. Delavayi* et *G. platypetalo*, manifeste secedunt pedicellis eglandulosis. Inter se facile distinguuntur foliorum forma et inflorescentia.

Geranium candicans, R. Knuth. Sp. nov. in Geraniaceae in Engl. Pflanzenreich iv, 129 (1912), p. 580.

Rhizoma obliquum vel verticale, sublignosum, circ. 1 cm. crassum, apice non dilatatum, stipulis pallide fuscis vel lutescentibus foliorum basalium vix dense ornatum, unicaule. Caulis erectus vel suberectus, 30-35 cm. altus, manifeste angulosus, pro maxima parte glaberrimus, superne pilis recurvatis vel retro-adpressis vix dense obsitus, inferne (saltem 10 cm.) simplex, sursum pseudo-dichotome ramosus, ramis cauli subaequilongis. Folia basalia et caulina inferiora longe petiolata petiolis quam lamina 2½-4-plo longioribus, angulosis, inferne glabris, versus laminam pilis retrorsis puberulis, 10-15 cm. longis; lamina reniformi-orbicularis, usque 8 cm. lata, a basi ad apicem usque 4½ cm. longa, supra glabra vel pilis raris obsita, infra ad nervos tantum setoso-pilosa, usque ad $\frac{3}{4}$ vel rarius ultra palmato-5-partita, lobis ambitu cuneato-ovatis, marginibus anterioribus 3-5-lobulato-dentatis, lobulis lateralibus integris acutiusculis vel obtusiusculis, lobulo medio saepe maiore apice iterum tridentato; folia caulina superiora brevissime petiolata, sed non sessilia, a basalibus diversa lobis angustioribus, utroque margine 2-4-dentatis, acuminatis, acutis. Stipulae pallide vel rubro-fuscae, \pm lanceolatae, \pm abrupte angustatae, acutissimae vel obtusae, puberulæ. Pedunculi biflori, sicut pedicelli pilis retrorsis dense obsiti, folio petiolato 1-2-plo longiores, 4-8 cm. longi. Stipulae linear-lanceolatae vel lanceolatae, 8 mm. longae, mox rubro-fuscae et glabrae, abrupte angustatae, acutae. Pedicelli 10-35 mm. longi, sub calyce dense retrorso-pilosæ, fructiferi verisimiliter recurvati. Sepala 3-nervata, ovato-oblunga, mucronata mucrone 1-1½ mm. longo, cum mucrone demum 10 mm. longa, late membranaceo-marginata. Petala calyce mucronato 1½-1¾-plo longiora, 17 mm. longa et 12 mm. lata, late obovata, integra vel vix perspicue undulata, intense alba, nervis vix perspicuis. Stamina calyce paullo breviora; filamenta sicut petalorum basis pilis longis albis patulis inferne dense hispida; antheræ linear-oblängae, atro-purpureæ. Pistillum albo-lanuginoso-villosum. Fructus. . . .

"Plant of 9-14 inches. Flowers pure white, anthers dark crimson. Open, grassy situations in pine forests on the eastern flank of the Tali Range. Lat. $25^{\circ} 40'$ N. Alt. 10,000-11,000 ft. June 1906. W. Yunnan." G. Forrest. No. 1879.

Nota.—Species affinis est *G. Wlassowiano*, a quo distinguitur primo aspectu floribus magnis, 4 cm. diam., intense albis.

Geranium strictipes, R. Knuth. Sp. nov. in Geraniaceae in Engl. Pflanzenreich iv, 129 (1912), p. 580.

Rhizoma lignosum, perpendiculare, infra collum 8-10 mm. crassum, ad collum saepe valde incrassatum, usque 3 cm. crassum, 1-4-caule. Caulis 20-50 cm. altus, suberectus vel erectus, inferne sparsissime, superne dense indumento simplici patulo manifeste inaequilongo hyalino subhirsutus, praecipue inferne angulosus, 2-10 cm. supra basin regulariter pseudo-dichotome ramosus, inferne simplex. Folia basalia et caulina inferiora vix longe petiolata; petioli usque 10 cm. longi, graciles, 1-1 $\frac{1}{4}$ mm. crassi, pilis longis setosiusculis tenuibus in petiolis superioribus tantum dense obtecti; folia superiora gradatim brevius petiolata, summa autem non sessilia; lamina supra et subtus ad venas setis hyalinis \pm dense obsita, usque 4-5 cm. lata, 2 $\frac{1}{2}$ cm. longa (a basi ad apicem), ambitu rotundato- vel saepius reniformi-5-angulata, usque ad $\frac{2}{3}$ palmato-5-partita, lobis e basi angustata flabellatis; lobi vix usque ad medium trilobulati, lobulis oblongis vel cuneatis vel fere rectangulis, apice 2-3-dentatis, dentibus acutiusculis. Stipulae lineares, tenues, circ. 1-2 mm. latae, sicut caulis saepe mox rubellae, acutae vel acutissimae; stipulae basales mox deciduae. Pedunculi quam folium 1-3-plo longiores, usque 10 cm. longi, plerumque autem breviores, graciles, vix 1 mm. crassi, sicut pedicelli indumento simplici patulo manifeste inaequilongo hyalino hirsutiusculi. Bracteae subulatae, 6-10 mm. longae, hirsutae. Pedicelli pedunculis non tenuiores, calyce 1 $\frac{1}{2}$ -2-plo longiores, 1-2 cm. longi, fructiferi stricte erecti. Sepala pilis setosis hyalinis subhirsuta, ovata vel ovato-lanceolata, 3-nervata, margine vix membranacea, apicem versus vix acuminate, mucronata mucrone demum saepe purpurascente 2-2 $\frac{1}{2}$ mm. longo, cum mucrone 10 mm. longa, 3 mm. lata. Flos 22 mm. diam.; petala roseo-purpurea, calycem mucronatum 1 $\frac{1}{2}$ -1 $\frac{3}{4}$ -plo superantia, late cuneata, apice retuso leviter emarginata vel integra, margine inferne longe ciliata, circ. 12 cm. longa, 7 mm. lata. Filamenta et pistillum quam calyx (sine mucrone) breviora: filamenta lineari-subulata. Pistillum niveo-sericeum. Fructus rostratus 30 mm. longus; valvulae sparsim puberulæ; rostrum indumento brevi setosiusculo satis dense obtectum.

"Plant of 1-2 ft. Flowers rose-pink. Dry, stony situations amongst scrub and in thickets on the eastern flank of the Lichiang Range. Lat. $27^{\circ} 20'$ N. Alt. 10,000-11,000 ft. June 1906. N.W. Yunnan." G. Forrest. No. 2369.

Nota.—Species certe ad formas *G. strigosi*, Franch., pertinet. Fortasse est synonymum var. *gracilis*. Mea sententia autem varietates melius pro speciebus habendae sunt.